

## Historical Change on Distribution and Quantity of the South-China Tiger (*Panthera tigris amoyensis*)<sup>1</sup>

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**Abstract** As one of five survived tiger subspecies, the South-China tiger (*Panthera tigris amoyensis*) specially disperses in China. This paper dedicated distribution and quantity of wild South-China tiger, and also introduced distribution, quantity and pedigree of captive South-China tiger. In the middle of this century, about several thousands South-China tiger distributed in following provinces, such as Hunan, Jiangxi, Guizhou, Fujian, Guangdong, Guangxi, Zhejiang, Hubei, Sichuan, Henan, Shanxi, Shanxi, Gansu. etc.. Until now, there are only about 20-30 wild South-China tigers distributing in the provinces of Guangdong, Fujian, Jiangxi, and Hunan, Sichuan, and 50 captive South-China tiger are raised in zoos of China.

**Key words:** South-China tiger (*Panthera tigris amoyensis*), Distribution, Quantity

### Distribution and Quantity of wild South-China tiger

**Distribution** The South-China tigers only distribute in China and the skull structure appear to be the most similar with those of their ancestors. As one of five survived tiger subspecies, this tiger subspecies has the lest quantity and is the most endangered in the world. Therefore, the "International Tiger Conservation Strategy" Scientific Workshop, which held in Minnesota of the United States of America in the early of 1986, pointed out that the South-China tiger was one of the most endangered animal species which needed prior conservation to others in the world.

The South-China tiger had lived widely in the East, Centre, South, Southwest of China and a few areas of Shaanxi Province, south of Shanxi Province. This area covered more than 2000 km from the east boundary between Zhejiang and Fujian Province (119°120'E) to the west boundary between Qinghai and Sichuan (100°E), and 1500 km from south to north, the Qinling mountain and the Yellow River (21°35'N) was the south line.

In the past time, the distribution center area of South-China tiger was in Hunan and Jiangxi Provinces which had the most tigers; the second and more uniform area was in around provinces such as Guangdong, Guangxi, Fujian, Guizhou Provinces; the outside area of this center was Zhejiang, Hebei,

Sichuan Provinces, which only had a certain number of South-China tiger; and few individuals had dispersed in southwest of Henan and south of Shanxi, meanwhile tigers had been found occasionally in the east of Gansu and the south of Shanxi.

Respectively, tigers were captured nearby Ningbo city and Guangzhou city in 1875, Nanjing city in 1880, in south of Guangxi Province in 1559, in Hubei Province in 1963 and in Anhui Province in 1966. In 1950's, tigers had been found in more than twenty counties of Jiangxi Province. In June of 1964, one South-China tiger of 1.99m in length and 190 kg in weight was killed in Longcaoping village of Fuping county, which located in Hanzhong area of Shanxi Province. Also, in 1959 some tigers were captured in Qingzhen and Weining, which were respectively in the middle and the west of Guizhou Province. All above showed that the South-China tiger had wide distribution and its population was large at that time.

Till 1950's, thousands of South-China tiger still covered all following provinces such as Hunan, Jiangxi, Guizhou, Fujian, Guangdong, Guangxi, Zhejiang, Hubei, Sicuan, Henan, Shanxi and Gansu, etc..

However, because of all factors such as population dense, economic development, frequent reclaim, heavy deforestation and the policy of government on protecting South-China tiger, compared with that of Siberian tiger(*Panthra tigris altaica*), being unsuitable, the distribution and population of South-China tiger declined sharply during 1950's and 1970's. At present,

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South-China tiger can only be occasionally encountered in mountain areas among Guangdong, Fujian, Jiangxi and Hunan Provinces and has a poor population. On April 11, 1994, two tigers were discovered in Fuping county of Shanxi province

**Quantity** In 1950's, the South-China tiger were found in about 20 counties of Jiangxi Province. During 1955-1956, 171 tigers were captured in this province too. In 1964, Shou Zhenghuang had estimated that 800 South-China tiger were killed annually according to the quantity of tiger bones and tiger skins collected. Since 1970, the South-China tiger were seldom seen, and the quantity of captured tigers was less 10% than that in prior twenty years. From 1975 to 1976, no tigers were captured. The similar situation also happened in Hubei and Hunan Provinces. Although, 170 tigers were captured during 1952-1953 in Hunan Province, in Zhejiang Province 3 tigers were annually captured at most in 1970's. In Henan Province, 7-8 tigers could be caught annually in 1970's, the quantity declined by 70%, compared with that in 1960-1963 (Shen Helin etc., in 1979). In Guangdong Province, 50 tigers were captured in 1950's, about 20 in 1960's, and less than 10 in 1970's.

At the end of 1970's, it had been estimated that wild South-China tiger were about 40-80 (Hu Hongguang etc., 1992). In 1980's, the wild South-China tiger was discovered seldom, although there still were a few reports about wild South-China tiger.

From December 1985 to May 1987, the result of investigation according to the foot track, fecal and claw trail on the South-China tiger in Guangdong Province, concluded that there were 4 adult tigers and 1-2 young tigers in Guangdong Province.

In 1980's, it was estimated that there were 30-80 wild South-China tiger in China (Tan Bangjie, 1986; Yuan Xicai, 1994).

From 1990 to 1992, the result of investigation cooperated by the Ministry of Forestry and the World Wildlife Foundation (WWF), which was on population and habitat of the South-China tiger in Guangdong, Hunan, Jiangxi, Fujian Provinces, showed that there were about 20-30 wild individuals.

In 1990-1992, the results of investigation in the north, east and west part of Guangdong indicated that 6-8 wild South-China tiger survived and their habitats were mainly in Yanshan, Ruyuan, Lianxian, Shixing, Renhua, Nanxiong, Lechang, etc.. And some area of Hunan and Jiangxi, included three parts: (1). The area of Yanshan, Ruyuan and Lianxian, included Chenjia Natural Reserve, Baishuiji, Babaoshan Natural Reserve, Ruyang, Qingxidong Natural Reserve, Dalingbei, Tianjingshan, Dadongshan Natural Reserve, etc., there were 3-5 tigers. (2). The area of Chebaling and Tianpingjia, included Chebaling Natural Reserve, Tianpingjia, Xianrendong, Liujiashan,

Dukeng, Luoba and Quannan county of Jiangxi province, there were two tigers. (3). The area of Renhua, Nanxiong and Lechang, included the Changjiang river, Chengkou, Hongshan, Fuxi, Baishun, Cangshi, Lanhe, Guanyindong, Wushan, Jiufeng, Rucheng of Hunan province and part of Dayu in Jiangxi province, there was one tiger at least. Generally, there were about 6-8 tigers in Guangdong province.

### Distribution, Quantity and Pedigree of Captive South-China tiger

According to the data of the World Zoo Yearbook (1976), there were 6 South-China tiger raised in 4 zoos abroad. Hu Hongguang et al. (1989) reported that 41 South-China tiger were only propagated artificially till the end of June 1988 in the world.

Tan Bangjie (1987) introduced that there were approximate 40 South-China tiger raised in 16 zoos of China, most of them were third or fourth generation of one female tiger in Fujian Province. And 4-5 tigers were in Guizhou Province, only two were the second generation.

No wild South-China tiger has been raised in 16 domestic zoos since a female tiger named Xiaofu died in 1983 (or 1984) in Shanghai zoo. However, in 1950's, there were many wild South-China tigers collected in zoos, especially in Zunyi Park, Qianling Park of Guizhou province, Beijing zoo and Shanghai zoo, the population of breeding didn't formed. After 1960's, it was difficult to capture wild tigers. From 1970s to 1986, wild individuals could not be adopted in zoos of all over the country including Hunan, Jiangxi, Fujian, Guangdong, Guangxi Provinces where the most of tigers had lived in the past time. South-China tiger was not exhibited in zoos of Hunan and Fujian Province in the middle of 1980's. Few South-China tigers were in the zoos in Nanchang city, Liuzhou city and Guangzhou city, which were raised artificially or introduced from the zoos of other provinces, the tigers in Guangzhou Zoo even were not purebred.

In the early of 1990, 40 South-China tigers were raised in China, all of them were descendant of wild tigers captured from the end of 1950's to the early of 1960's, and divided into two branches according to relationship. The first was the offspring of tigers captured (1 ♂:2 ♀) in Qianling Park of Guiyang city, in Guizhou Province; the second was from Shanghai Zoo and was the descendant of one male tigers came from Guizhou Province and one female from Fujian Province. Tigers in Chongqing Zoo belonged to the first branch. In 1980's, the two branches began to interconnect, all of them were the descendant of inbreeding. Because it was too late for us to be engaged in pedigree research, it was very difficulty to

get wild tigers. Inbreeding led to strain degeneration, some of them were little in size (as small as leopard), some young tigers were difficult to be survival, and more unpaired or unbreeding.

Till 1996, there were 51 South-China tigers in zoos of China (Xie Zhong et al, 1996), 33 males and 18 females. When nine of the females were in their breeding period (4-11 years old), only two of them could mate and breed, which were in Suzhou Zoo and Shanghai Zoo respectively. Except those two female individuals just had ability in breeding, the rest were not succeeded in breeding because of weakness and individual discrepancy. Three female tigers will be-

come adult tigers the following one or two years.

Until now, only 50 South-China tigers are raised in the world, and all of them are in the zoos of China, the result of Table 1 shows the details. (Wang Menghu, Xie Zhong, 1998).

The information about tigers in Chinese article was traced back to the two or three thousands years ago. And there were numerous folklore, poems and songs, drawings and stories about tigers, which loved by people unparalleled. At present, wild South-China tigers are almost extinction, it is very urgent to rescue them.

**Table 1. Distribution and Quantity of Captive *P. t. amoyensis***

Zoo	Gender	Zoo	Gender
Xiamen Zhongshan Park	1 ♂	Nanjing Zoo	1 ♂
Changsha Zoo	1 ♂	Jiujiang Gantang Park	1 ♀
Wuhan Zoo	1 ♂	Nanning Zoo	1 ♂
Nanping Jiufeng Park	1 ♂	Fuzhou Zoo	1 ♀:1 ♂
Changchun wildlife-plant Park	1 ♂	Shenzhen Safari	1 ♂
Nantong Park	1 ♂	Tianjing Zoo	1 ♂
Qianling Park	1 ♀	Luoyang Wangcheng Park	2 ♀:2 ♂
Suzhou Zoo	6 ♀:7 ♂	Qiqihar Zoo	1 ♂
Baoding Zoo	1 ♂	Chongqing Zoo	2 ♀:1 ♂
Shanghai Safari	1 ♀:2 ♂	Shanghai Zoo	4 ♀:3 ♂
Guangzhou Zoo	2 ♀:1 ♂	Shijiazhuang Zoo	1 ♀

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